

Cast Iron and New Orleans

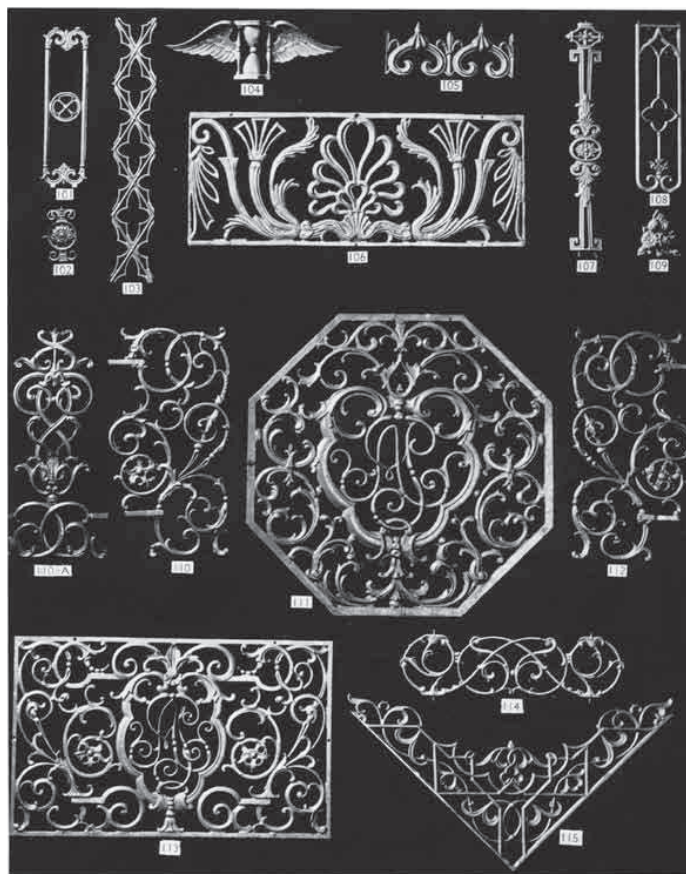
By Liz Russell
Historic Building Recovery Grant Program

QUINTESSENTIAL to the streetscape in the Vieux Carré and gracing many homes and fences in the Garden District and other parts of the city, decorative cast iron is iconic to New Orleans. For almost half a century, architects and homeowners favored this building material, and local industries thrived on its manufacture. Produced from molten iron poured into a reusable mold, cooled and finished, cast iron quickly replaced wrought iron, which had to be individually forged and shaped. It became the popular material not only for treillage (from Old French treille, meaning latticework) on cantilevered balconies and verandahs, but also as staircases, columns, downspouts, thresholds, lamps, gazebos, fences, gates, and even entire cast-iron facades. However, today in New Orleans, as is the case with many traditional building trades, it can be a daunting task to restore or recast iron elements.

THE CHINESE invented cast iron around 513 B.C., well over a thousand years before the first iron foundry appeared in England around 1161

A.D. The Industrial Revolution in the late 18th century and resulting technological advances in the early part of the 19th century in England laid the groundwork for the emerging cast iron industry. And by the mid-19th century, select cities in the United States were producing large quantities of cast-iron products. In New Orleans cast iron replaced the wrought iron tradition introduced by French and Spanish colonists, still seen on many of the oldest buildings in the city, including the Presbytère and the Cabildo.

As an element for architectural expression, American builders and architects touted cast iron as versatile and economical. Some architects scorned the use of cast-iron embellishment on the facades of buildings, but the Victorians embraced it and in turn helped shape the face of New Orleans as we



The caption on this page from the 1939 Lorio Iron Works catalogue reads, "Above patterns Nos. 110-A, 110... are known as the 'Pontalba designs' and are made from castings of the original ironwork of the Pontalba building..." Courtesy the Historic New Orleans Collection, accession number 71-20-L

know it today. The famous Pontalba Buildings, c. 1849, were likely the first building in the city to feature cast iron, visible on galleries facing Decatur Street and Jackson Square.

The cast-iron craze spread through the French Quarter like the fires of the previous century, changing the face of the buildings and giving the French Quarter one of its most defining characteristics. Remnants of the Spanish Colonial period, small balconies (some embellished with wrought iron) hung over the streets of most buildings in the Vieux Carré. However, these balconies were impractical: small and uncovered they offered no protection from hot



Stately cast-iron verandahs grace this home at 600 Esplanade Ave.

CAST VS. WROUGHT IRON

Repairs for cast and wrought iron differ, so it is important to first identify the type of ironwork you have. Some ornamental ironwork contains a mixture of both.

CAST IRON

- High carbon content, brittle
- Heated to a molten, fluid form and poured into molds
- Good for complex or repetitive patterns
- More prone to rust
- Mechanically fastened together, by bolts for example

WROUGHT IRON

- Malleable, lower carbon content
- Hand shaped by heat and force
- Best for geometric or curvilinear designs
- Less likely to rust, was sometimes waxed for protection
- Fastened with rivets or by fusing

sun or driving rains. Balconies were built this way because Colonial life centered around the private space of the courtyards. But with the Victorian era came a readiness to embrace modern technology — and to display it. Cast-iron balconies and fancy ironwork treillage were a “quick and easy” fix. They also offered a way to increase outdoor space and render it more useable: balconies were extended to the sidewalks and eventually stacked on top of each other (thus creating roofs), supported by cast-iron colonnettes. Some mid-century building contracts refer to these larger projections as verandahs. The lacy ironwork served as an ideal trellis for lush, tropical plants and created an inviting porch space.



Pattern guide from a Luther Homes Catalogue dating between 1854 and 1861. Courtesy the Historic New Orleans Collection, accession number 1981.20.44.3

The French Quarter was not the only place where cast iron was en vogue. Much of the Garden District developed in the mid-19th century, a period of prosperity in New Orleans, and many wealthy homeowners insisted that their new homes display cast iron, the material synonymous with progress. Cast-iron facades (designed to imitate stone) were popular in the Central Business District, however many did not survive.

Pattern books and trade catalogs helped fuel the popularity of cast iron in America and New Orleans. These catalogs offered customers hundreds of cast-iron options for their buildings, spreading designs across the nation. The innovative firm of Robert Wood was the first to offer a free catalog of products and many of his designs are found in New Orleans. The famous cornstalk fence in the Garden District displays the name “Wood and Miltenberger” (the New Orleans agency for the noted Philadelphia foundry).

THE GOLDEN AGE of ironwork was interrupted by the Civil War when many manufacturers of decorative cast iron switched production to more utilitarian purposes. Factors after the war, including economic depression, changing fashions, and the advent of steel and later aluminum in building

construction, all resulted in the decline of cast iron in the city. Unfortunately, as the cast iron demand lessened, many historic foundries destroyed their original molds. Today, major iron production has moved to India and China. Unfortunately, imported iron can vary in quality as the practice of using a high sand content renders cast iron impossible to repair.

Although we all love this remnant of the past, we are not always its best stewards. Metal crafter Robert Wyche, of R. Wyche Metal Crafters, says, “The day of the craftsman is just about completely gone.” Maintaining cast iron using the tips and resources featured here is a great start to caring for your cast iron. New Orleans contains some of the most breathtaking collections of cast iron in the country, perhaps even the world. The beauty and grace of cast iron is a New Orleans treasure for all of us to maintain and preserve for future generations to enjoy.

CAST IRON RESTORATION, especially in the beginning, can be confusing. Many companies did not print their name or mark on the finished product. Also many companies used the same patterns. Tracing the exact company can prove difficult. Even if you do discover the source, none of the original New Orleans foundries exist today.

Fortunately, it is possible to recast elements using sections of the original ironwork as a pattern, or even to find an exact replica in modern foundry catalogs. The following are some local sources for cast-iron replacement and repair:

- Orleans Ornamental Iron Casting and Distributors, on North Rampart Street, has a large catalogue of cast-iron parts. They do not cast their own material, but they are a resource if hoping to match an element.
- Andrew’s Welding & Blacksmith on Agriculture Street and Iron Work Service Co. on North Derbigny Street both specialize in wrought iron but can make repairs to cast iron and possibly recast existing elements.

The following were of great assistance in writing this article and are resources for more information:

Cast Iron and the Crescent City by Ann Masson and Lydia Schmalz. 1995, Louisiana Landmarks Society.

Historic Buildings of the French Quarter by Lloyd Vogt. 2002, Pelican Publishing Company.

Jason Church, Conservator, National Center for Preservation Technology and Training. Email: jason_church@conservator.nps.gov



Photo by Liz Russell

TIPS FOR MAINTAINING CAST IRON

Today, the most common problems associated with cast iron are oxidation (rusting), galvanic corrosion (two metals reacting to each other), fractures or brittleness, and missing elements.

The first step before beginning a restoration project is documentation. Some companies signed their work with trade plates or maker’s marks stamped into the ironwork. Close inspection underneath rails or where parts connect can reveal original paint colors. Historically, much of the cast iron in New Orleans was painted soft green or bronze.

Cast-iron fences should only come in contact with the ground at support points (posts and brackets). This may mean raising the fence, but usually can be remedied by clearing away soil from underneath the panels.

REPAIRING LOOSE CONNECTIONS:

- Check that all bolts are tightened, using a lubricant if necessary.
- Missing bolts can be replaced with same-sized iron or stainless steel bolts.
- If bolts are broken or rusted, they can be drilled out using a drill bit smaller than the hole. If the threads are stripped, they may need to be retapped.

WHEN IT IS NECESSARY TO REMOVE FAILING PAINT AND CORROSION THE FOLLOWING IS THE PREFERRED METHOD:

- Gentle scraping and the use of a fine wire brush
- Be advised that low pressure (less than 100 lbs/sq. in.) grit blasting, using iron slag or sand is a method recommended by some, but this can remove fine details.
- Never use “wet” methods of pressure cleaning — water will accelerate rusting of the surface and penetrate into open joints.
- Stabilizing the iron with a rust converter (phosphoric acid or tannic acid based)
- Priming and painting: use oil-based (also known as alkyd) primers and paints designed for use with metal. It is not necessary that the primers and paints include rust preventatives, as the iron has already been stabilized. (To read more about the historic paint and its applications, refer to “More Than Just a Pretty Face: A Historic Homeowner’s Guide to Exterior Paint” in the December 2009-January 2010 issue of *Preservation in Print*).

In all but the simplest repairs (surface corrosion, flaking paint, failing caulk) it is best to hire a knowledgeable contractor or, in some cases, a preservation architect or building conservator. Cast iron can be braised or welded, but an expert with knowledge of cast iron must do this. If cast iron heats or cools too quickly it can go into thermal shock and crack.

Photo by Liz Russell